

IMAGE PICKUP DEVICE

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- European:

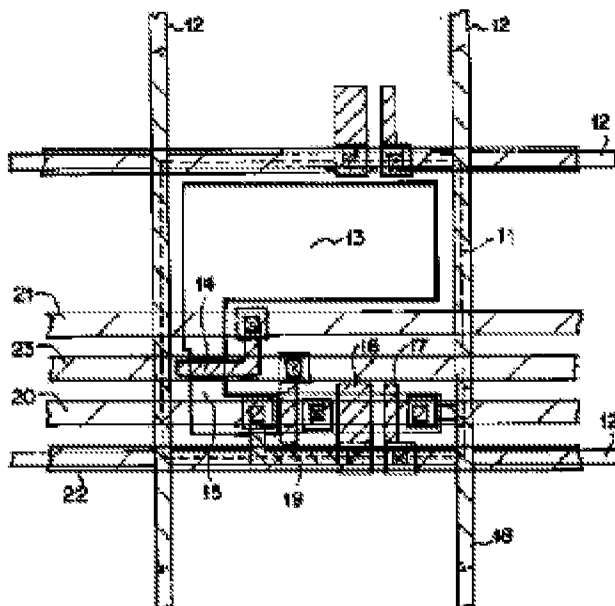
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Abstract of JP2000260971

PROBLEM TO BE SOLVED: To prevent incoming of excessive electrons in a floating diffusion for preventing error in hue, by providing a lateral overflow drain with a diffusion layer wiring surrounding two sides of a photoelectric conversion element. **SOLUTION:** An N+ diffusion layer 12 forming a lateral overflow drain structure(LOD) is so arranged as to enclose the outer circumference of a pixel unit cell 11 in lattice. An N+ diffusion layer (PD) 13 forming one electrode of a photodiode which is a photoelectric conversion element is away from the N+ diffusion layer 12 by a distance $0.4\ \mu\text{m}$ and so arranged as to be enclosed in three ways by the N+ diffusion layer 12. With a transfer gate 14 of an MOS transistor, the signal charge from the PD13 is transferred to a floating diffusion(FD) 15. Thus, with the N+ diffusion layer 12 constituting LOD arranged near the three sides of the PD13 and positively charged to collect electrons, the electrons overflowing from the PD13 are caught, preventing electrons from entering the FD15.



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